ABSTRACT

A switched current temperature sensing circuit (1) comprises a measuring transistor (Q1) which is located remotely of a measuring circuit (5) which applies three excitation currents (I_1, I_2, I_3) of different values to the measuring transistor (Q1) in a predetermined current sequence along lines (10,11). Resulting base/emitter voltages from the measuring transistor (Q1) are applied to the measuring circuit (5) along the same two lines (10,11) as the excitation currents are applied to the measuring transistor (Q1). Voltage differences ΔV_{be} of successive base/emitter voltages resulting from the excitation currents are integrated in an integrating circuit (36) of the measuring circuit (5) to provide an output voltage indicative of the temperature of the measuring transistor (Q1). By virtue of the fact that the measuring transistor (Q1) is excited by excitation currents of three different values, the effect of current path series resistance in the lines (10,11) on the output voltage indicative of temperature is eliminated. The predetermined current sequence in which the excitation currents are applied to the measuring transistor (Q1) is selected to minimize the voltages in the integrating circuit (36) during integration of the voltage differences ΔV_{be}.